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(54) **Mono ski-board**

(57) A mono ski-board 10 (Fig. 1) has a footstrap 15, and a flexible and adjustable nylon handle 12 fixed to the front end of the ski-board for gripping about waist height to improve the skier's balance and help keep the body weight over the ski-board tip.

The ski-board also includes a raised aerofoil 14 on the upturned tip 11 of the ski-board 10 with apertures 14a and 14b on the roof 14b, and side walls 14c to help keep the upturned tip down (Fig. 2).

Furthermore the ski-board 10 also includes longitudinally extending snow gripping gullies 16 on the underside of the ski-board, the concentration of which is greater towards the rear of the ski-board providing for better manoeuvrability by shifting the body weight (Fig. 2).

Fig. 1

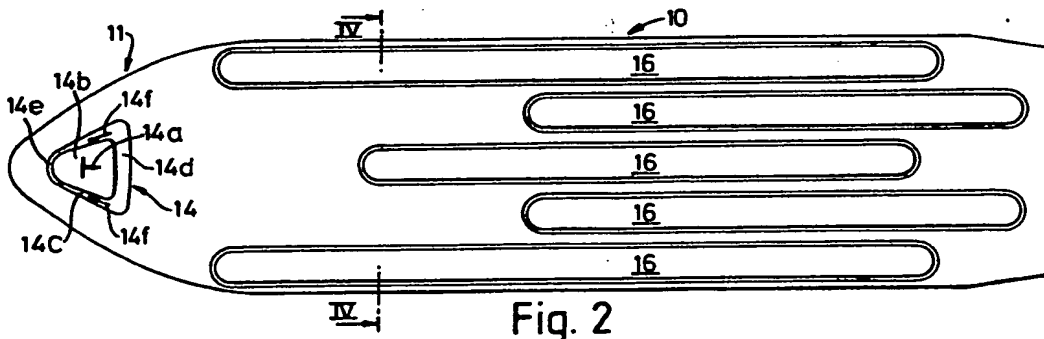
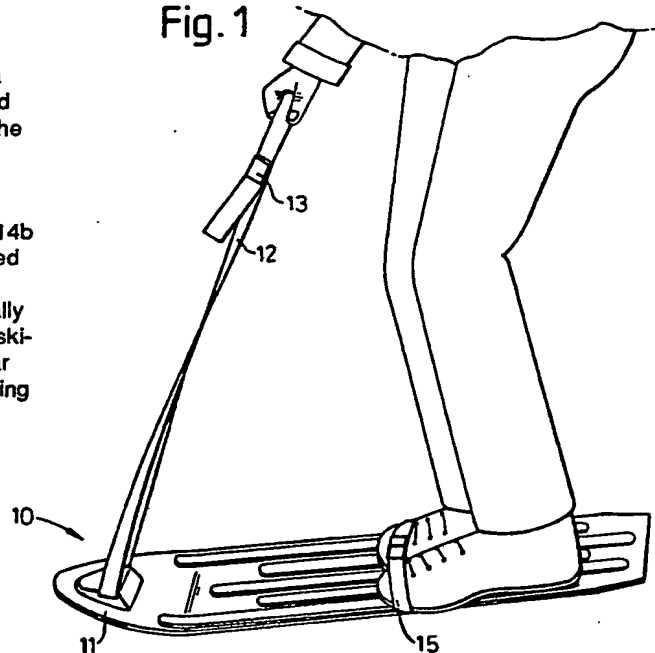


Fig. 2

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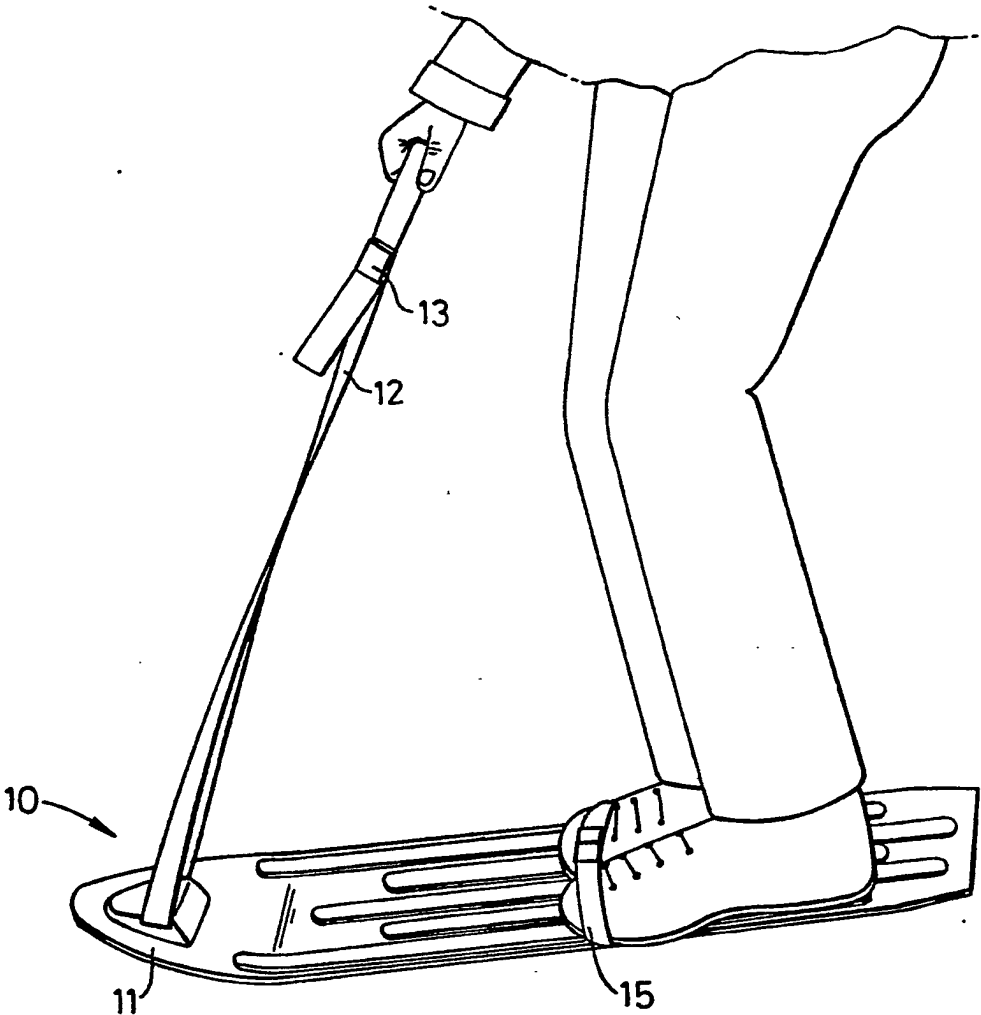


Fig. 1

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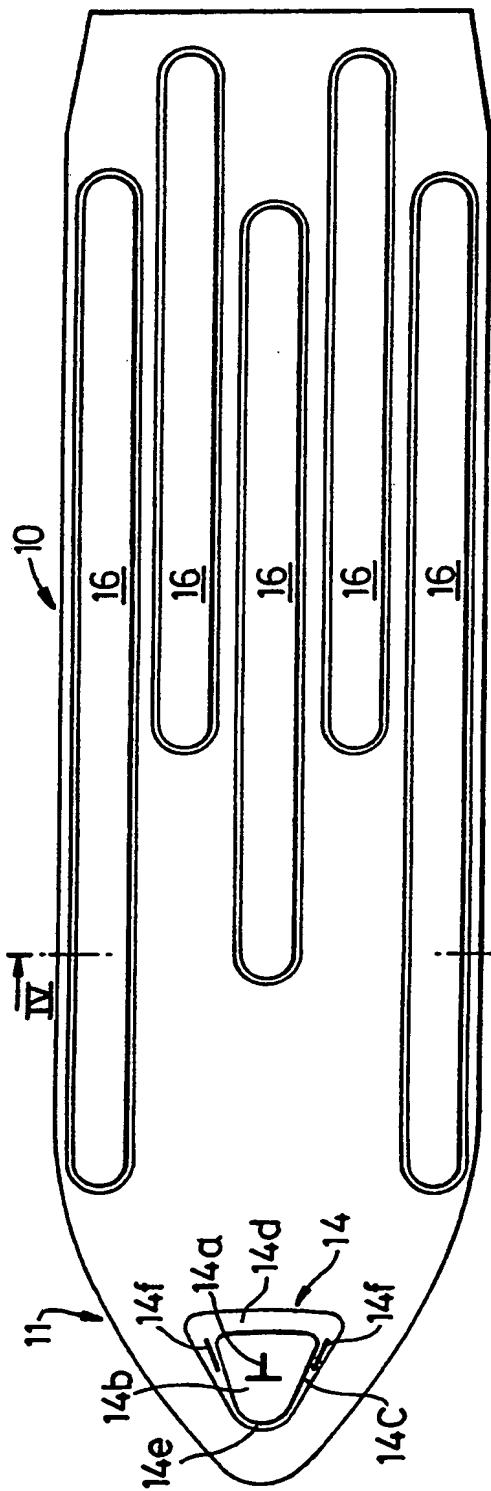


Fig. 2

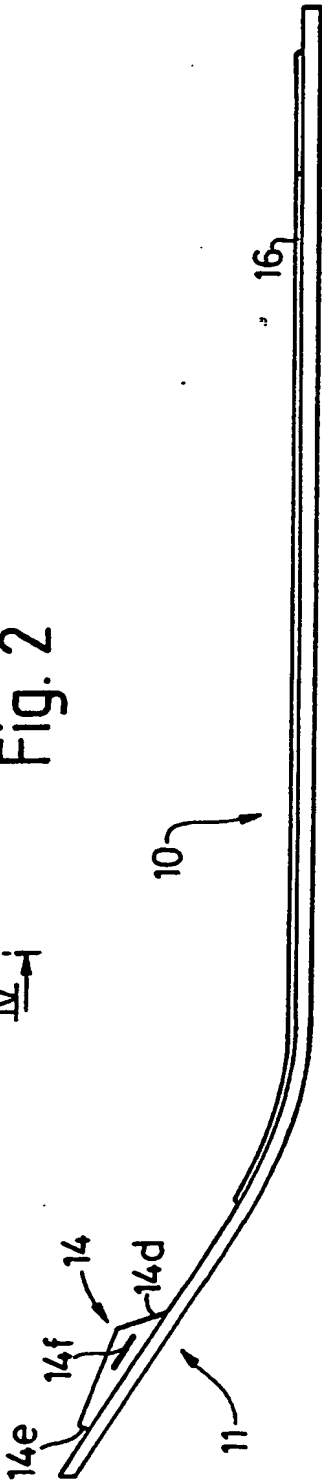


Fig. 3

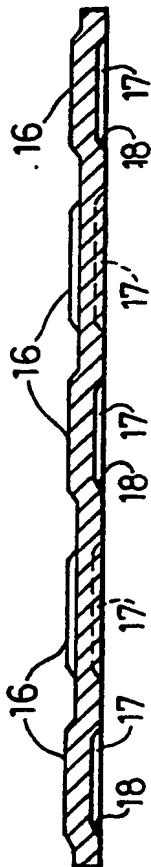


Fig. 4

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IMPROVEMENTS IN SKI-BOARDSDescription

The present invention relates to equipment for travelling over snow, and is particularly concerned with short mono skis.

5 Skiing is an increasingly popular sport and requires two skis and two sticks, but there is also on the market a mono ski which is wide enough to accommodate both feet of the skier. Although skiing is fun filled, as any beginner to the sport will know there are disadvantages in that it is expensive and difficult to learn.

10 An example of a problem encountered is manoeuvring the skis. This is done by shifting in bodyweight which causes one ski to grip more on the snow and turn the skier. This, however, is difficult for a beginner, and, in fact, for more accomplished skiers. This is especially difficult for children who often need extra
15 support and security, else they will simply topple over. Therefore conventional ski equipment does not properly cater for the child who simply wants an easily manoeuvrable board on which he can play and do tricks. Furthermore, the wind pressure on the bottom surface of the front of upturned ski-boards often causes the front to lift
20 fractionally. It is an object of the present invention to obviate or mitigate the aforesaid disadvantages.

It is a further object of the invention to provide an easily manoeuvrable ski-board which, for example, a child can easily manoeuvre and play on.

25 According to the present invention there is provided a ski-board including a foot engaging means attached thereto, and a handle adapted to be gripped by the user from a standing position. Advantageously, the handle is flexible, and preferably a strap of nylon or the like.

30 According to a second aspect of the invention there is provided a ski-board having longitudinally extending ribs or recesses on the underside thereof, there being more of said ribs or recesses at the back than the front of the ski-board so as to give a better grip on the snow in response to a manoeuvring shift in the user's
35 body-weight. Preferably the ski-board has longitudinally extending

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gully recesses.

According to a third aspect of the present invention there is provided a ski-board having an upturned front tip and including an airofoil means which includes continuous passages for two way
5 flow of air between the top and bottom surfaces of the upturned tip of ski-board.

Preferably the airofoil means is formed on the top surface of the upturned tip and includes a roof having an aperture for passage of air from the bottom surface through the ski-board, and
10 two side walls generally inclining forwardly and towards one another, each side wall having an aperture therein for passage of air from the top surface through the ski-board.

Preferably the airofoil means also acts as a bracket for anchoring the handle, as described in the first aspect of the
15 invention, to the ski-board.

In all aspects of the invention ski-board should be construed as any board which is adapted to travel over snow or the like and to be manoeuvred from a standing position. Furthermore, with respect to all aspects of the invention, advantageously the ski-
20 board is wide enough to accommodate both user's feet side-by-side.

The ski-board is also advantageously shorter than a conventional ski and is made of plastics.

It will be appreciated that although all three aspects of the invention are independent, preferred embodiments will include
25 combinations, especially combining them all.

The invention will now be described by way of example only with reference to the accompanying drawings in which:

Fig. 1 is a top perspective view of a mono ski-board;

Fig. 2 is a plan view of a second embodiment of a mono
30 ski-board;

Fig. 3 is a side view of the mono ski-board as shown in Fig. 2; and

Fig. 4 is a cross sectional view through the line IV - IV in Fig. 3.

35 Referring to Fig. 1, there is shown a person standing on a mono

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ski-board 10. The mono ski-board 10 is relatively short but is sufficiently wide for the user to have both feet thereon side-by-side. As can be clearly seen from Figs 1 and 3, the mono ski-board 10 is of the same general design as a ski, in that it is flat bottomed, has an upturned, pointed tip 11 and is controlled by flexing the knees and shifting the body-weight. Generally the user stands towards the rear of the mono ski-board, which makes it rear heavy, and easier to manoeuvre. The mono ski-board 10 shown is adapted mostly for the lower ski slopes and for use mostly by children.

To give the user extra stability, a handle 12 in the preferred form of a nylon strap 12, (Fig. 1) is fixed to the front end 11 of the mono ski-board 10, for gripping as shown in Fig. 1. Such handle 12, has other advantages in that it makes it easier for the ski-board user to leap about and perform tricks, and is therefore well suited for use by children. Moreover, the nylon strap 12 is adjustable via the buckle 13, to an adult's height.

It will be appreciated that other forms of handle 12 can be used which may be rigid or spring loaded so as to recoil on release and not cause an obstruction to the ski-board user.

On the top surface of the upturned tip 11, there is a bulge 14, which has been pressed out during moulding. This bulge 14 firstly serves as a bracket to which the nylon strap 12 can be fixed; the nylon strap 12 has a toggle (not shown) on one end, which slides along and anchors in a T-slot 14a on the roof 14b of the bulge 14. The bulge 14 also has aerodynamic properties and acts as an airofoil means. As can be seen from Figs 2 and 3, the bulge 14 is generally triangular in plan view and has two side walls 14c, a rear wall 14d and a shallower and smaller front wall 14e sloping upwardly and inwardly to the roof 14b, which itself slopes gently upwards from the front to the rear wall 14e and 14d. Normally the upturned tip 11 of the mono ski-board 10 lifts by the wind pressure on the bottom surface thereof. However, in the present embodiment, because there is a direct and continuous passage through the upturned tip 11 via the T-slot 14a, the wind pressure on the bottom surface

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thereof, is reduced. Furthermore, and without being bound by theory, it is thought that the downward pressure on the top surface of the upturned tip 11 is increased by wind flowing along the side walls 14c of the airofoil 14 and down through slots 14f provided therein. Overall the design of the airofoil controlling the flow of air helps to keep the tip 11 of the mono ski-board 10 down. Passage of air could also flow wholly from the bottom surface of the tip through the ski-board, thereby relieving the wind pressure on this bottom surface and also deflecting some wind across the top surface. The design of the airofoil means 14 would be adapted accordingly, but the effect would once again be to keep the tip 11 down.

Since the embodiments shown have been designed for gentle snow slopes, an adjustable nylon strap 15 (Fig. 1) is all that is required on a foot grip; and also means that, for example, footwear such as wellington boots can be conveniently used. It will be appreciated, however, that conventional ski bindings might also be employed.

In the examples, for good manoeuvrability, the mono ski-board 10 is shorter and more akin in length to hot-dogging skis than to conventional ones. In general the dimensions of the mono ski-board 10 are 800mm long by 200mm wide but may be varied depending on whether the model is intended for use by an adult or a child. Because the shorter mono ski-board 10 does not need to be as strong as a longer version, the shorter board 10 can be made of plastics and can therefore be conveniently moulded. To increase the rigidity of the plastics mono ski-board 10, five equi-spaced and staggered ribs (Figs. 2 and 4) are pressed out during moulding. Since these ribs 16 are formed on the top surface, the underside of the mono ski-board has five corresponding gullies 17 (Fig. 4) two of which are illustrated by dotted lines.

These gullies 17 act as directional and manoeuvrability aids. Since the gullies 17 are parallel to the longitudinal axis of the mono ski-board 10, they help keep the board 10 straight as it travels over the snow. Like the ribs (Fig. 2) the gullies are of differing lengths and are staggered in such a way that there is a

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greater proportion thereof at the back than at the front end of the mono ski-board 10. This gives the advantage on turning of a better grip on the snow and so better overall manoeuverability. As shown most clearly in Fig. 4, the gullies 17 have radiused corners 18 (Fig. 4). As will be appreciated, other snow gripping surface formations such as longitudinally extending ribs can be used as long as the highest proportion thereof are at the rear of the mono ski-board.

Some advantages of the mono ski-board show over say conventional skis is that it is cheaper, because it is easier to manoeuvre, a child can learn the basic skills of skiing while at play.

It will be appreciated that other forms of ski-boards can be constructed in accordance with the invention. Therefore other designs of airofoil means can be provided which selectively exert pressure on a portion of the ski-board. Of course, where slots 14a are used in the present embodiments, these can be variably positioned and of varying sizes, depending on the pressure desired.

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Claims

1. A Ski-board including a foot engaging means attached thereto, and a handle adapted to be gripped by the user from a standing position.
2. A ski-board as claimed in claim 1 wherein the handle is
5 fléxible and adjustable to different heights.
3. A ski-board as claimed in claim 1 or 2 which is a mono ski-board being broad enough to receive both of the user's feet and being approximately the length of a hot dogging ski.
4. A ski-board as claimed in any one of claims 1 to 3 wherein
10 there is further provided longitudinally extending snow gripping ribs or recesses on the underside of the ski-board, there being a higher concentration of said snow gripping ribs or recesses towards the rear of the ski-board to give a means of steering in response to a manoeuvring shift in the user's body weight.
- 15 5. A ski-board as claimed in any one of the preceding claims wherein the ski-board includes an upturned front tip and an aerofoil means at the front of the ski-board, the aerofoil means protruding from the upper surface of the ski-board and including a roof having an aperture for passage of air from the botton
20 surface through the ski-board, and two side walls generally inclining forwardly and towards one another, each side wall having an aperture therein for passage of air from the top surface through the ski-board.
6. A ski-board as claimed in any one of the preceding claims
25 wherein the foot engaging means is a looped strap,
7. A ski-board having longitudinally extending ribs or recesses on the underside thereof, there being more of said ribs or recesses at the back than the front of the ski-board so as to give a better grip on the snow in response to a manoeuvring shift in the user's
30 body-weight.

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8. A ski-board having an upturned front tip and including an aerofoil means which includes continuous passages for two way flow of air between the top and bottom surface of the upturned tip of ski-board.
- 5 9. A ski-board as claimed in claim 8 wherein the aerofoil means is formed on the top surface of the upturned tip and includes a roof having an aperture for passage of air from the bottom surface through the ski-board, and two side walls generally inclining forwardly and towards one another, each side wall having an aperture
- 10 therein for passage of air from the top surface through the ski-board.
10. A ski-board substantially as described with particular reference to the accompanying drawings.